

Remarks/Arguments:

Claims 1-27 are pending in the application, and claims 21-27 are withdrawn from consideration.

Oath/Declaration

The Examiner has indicated that the Declaration filed on May 7, 2009 is defective because duplicate pages have been combined into a single Declaration, whereas a complete Declaration must be filed by each inventor. Applicants submit the required Declarations herewith.

Rejection of Claims

Claims 1-20 are rejected under 35 USC § 103(a) as unpatentable over U.S. 4,640,838 ("Isakson") in view of U.S. 4,515,841 ("Dyke"). The rejection states that Isakson teaches a vent opening that is covered by a tape that has a layer that is weakened by heating during microwave cooking of food (Figure 4, Example 1). Applicants wish to make the following clarifying observations about Isakson's teachings. In Example 1, the layer that is weakened by heating is the pouch material (a laminate of polyethylene and polyethylene terephthalate). The heating that weakens the pouch material (an unpunctured film) is provided by Isakson's inventive microwave-absorbing tape, which is adhered to the pouch. Upon microwave irradiation, the tape creates a hot spot that weakens the underlying pouch material, causing it to rupture and vent.¹

Figure 4 of Isakson shows a variation on this approach, where the underlying film is perforated (punctured) in advance at feature 36 but which also includes a new, unpunctured polyethylene layer (22). This layer must be weakened by the hot spot generated by microwave absorption in layer (24), which contains graphite. Isakson describes this in column 5 at lines 10-18. Like Example 1, Figure 4 employs a principle of operation that requires generating a microwave-induced hot spot that is hot enough to soften and weaken an unpunctured polyethylene film, thereby venting the package. Isakson also describes this embodiment in column 2 at lines 52-62. There Isakson notes that the "deposit" (i.e., the microwave-absorbing hot spot) is impervious to vapors, which in this context would include water vapor.

Isakson's invention is designed specifically for microwave oven applications (see the title of the invention), and he intends that venting be triggered by absorption of microwave energy

¹ Isakson, column 2, lines 42-51

in the "deposit" region of his film. His invention is intended to provide an improvement over U.S. Pat. No. 4,210,674 (Mitchell), which uses a similar microwavable film where the microwave absorbing material is aluminum, which is less desirable than the graphite that Isakson uses.² Isakson makes a point to distinguish his invention from that of Mitchell by emphasizing that Isakson uses a nonmetallic microwave absorber (e.g., graphite) to avoid electrical arcing and other problems. But both use the same principle of operation: weakening of an underlying polymeric film by a hot spot formed by microwave absorption.

Isakson does not teach the use of a water-soluble barrier layer as recited in Applicants' claims, and the Office Action relies upon Dyke to provide this missing feature. Specifically, the rejection states that Dyke teaches the use of either a polymer that softens when it is heated or a water-soluble polymer such as polyvinyl alcohol that absorbs steam and expands and dissolves to form an opening when water-containing substance is heated in a package. The rejection notes that these are alternative or equivalent solutions for Dyke's purposes, and proposes that they would therefore be equivalent (and obvious) variations for Isakson's purposes. According to this thinking, the Office asserts that use of a water-soluble polymer in place of Isakson's microwave-absorbing deposit (e.g., graphite in a pressure-sensitive adhesive) would have been obvious. Applicants respectfully disagree.

Applicants wish to clarify Dyke's teachings. Dyke does not teach a film that softens, either by heat or by contact with water. Rather, Dyke teaches a polymeric film that has meltable or water-soluble materials embedded in it. Dyke's description is as follows.³

The bag 10 is made of a thermoplastic resin, preferably polypropylene, but any known heat resistant film forming polymer will suffice. Polypropylene is preferred for its high tensile strength at elevated temperatures, its low water vapor transmission and its economy of use. The polypropylene film 12 is embedded with additives (not shown) which will form pores 14 in the film 12 upon exposure to steam sterilization, as illustrated in FIG. 3.

The additives can be soluble materials or melt materials, such as the carbowaxes of polyethylene glycol. The soluble materials are selected from materials such as polyvinyl alcohol, polyvinyl acetate, polyvinyl pyrrolidone and various inorganic salts such as sodium chloride.

Thus, Dyke may embed water-soluble resins as domains dispersed within a polymer film, but he does not provide a water-soluble barrier layer disposed on a surface of the substrate layer as recited in Applicants' claims. Thus, the combination of Isakson and Dyke does not

² Isakson, column 1 line 57 to column 2 line 2

³ Dyke, column 2, lines 39-52

provide all of the claim features, and so the combination does not support *prima facie* obviousness.

For the purposes of this Response, Applicants do not challenge the Office's contention that water-soluble compounds may be functionally equivalent to meltable compounds for Dyke's purposes, i.e., rendering a film porous by forming voids within it upon exposure to an external heat and moisture source (steam sterilization). But despite their equivalence for Dyke's purposes, neither a meltable material nor a water-soluble material meets Isakson's explicit need for a strongly microwave-absorbing deposit. Replacing Isakson's composition with either of Dyke's materials would render Isakson's invention unfit for its intended purpose, which is to vent under the influence of microwave energy. There would be no means of producing the hot spot necessary to weaken the underlying packaging film so as to create a vent. But if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)⁴

Applicants submit that such is the case here, and so it would not have been obvious to make the proposed modification. Thus, the rejection should be withdrawn. Claims 2-20 depend from claim 1, and these should likewise be allowed.

Further, as noted above, Isakson employs a principle of operation that requires generating a microwave-induced hot spot that is hot enough to soften and weaken an unpunctured polyethylene film, thereby venting the package. Replacing the "deposit" region with a material that instead dissolves in water would change that principle of operation. But a modification resulting in a change of operating principle cannot have been obvious.

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)

In addition to the foregoing, it should be noted that Isakson and Dyke are concerned with entirely different and distinct technical fields. While at a very superficial level both are concerned with packages, Isakson is concerned with the packaging of foodstuffs while Dyke is concerned with sterilizing biohazard contaminated waste. When faced with a problem in the food packaging field, the skilled person would not look to a document concerned with sterilization of contaminated waste for guidance.

⁴ MPEP at 2143.01 V

Moreover, the aim of Dyke is different from that of Isakson. Dyke is concerned with providing biohazard bags which can be used to contain contaminated waste during a steam sterilization step. Thus, rather than the steam being generated by heating the contents of the bag, the bag itself is placed in a steam sterilization apparatus and the presence of the steam outside the bag causes vents in the bag to open and allows the steam to pass therethrough resulting in sterilization. There is nothing in Dyke to suggest that the bag described would be suitable for use in microwave applications. Thus, the person skilled in the art would not have made the combination in the expectation of success.

The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986, emphasis added)⁵ However, that condition is not met in the present case, and thus *prima facie* obviousness is not supported.

In addition, and as noted above, Isakson notes that the "deposit" (i.e., the microwave-absorbing hot spot) is impervious to vapors, which in this context would include water vapor.⁶ To use Dyke's water soluble material in place of Isakson's water vapor impermeable material would have required the skilled person to go directly against the teaching of Isakson, which is clear in its requirement that the particle-containing deposit is covered with a water impervious thermoplastic film. Thus, the skilled person would be going against Isakson's own teaching as to suitable materials for use in his "deposit" region, as proposed in the Office Action.

It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983) A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Since Isakson emphasizes the use of a water vapor impermeable material, he teaches away from using a water-soluble material as cited in Applicants' claims, and thus this modification would not have been *prima facie* obvious at the time of Applicants' invention.

⁵ MPEP 2143.02 I.

⁶ Isakson, column 2, lines 52-62

For the foregoing reasons, Applicants submit that the present claims would not have been prima facie obvious over Isakson in view of Dyke, and respectfully request reconsideration and allowance of the pending claims. Applicants invite the Examiner to contact their representative, Frank Tise, if it appears that this may expedite examination.

Respectfully submitted,



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FPT/gdb

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